IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Hauser et al.	**GROUP:**	2813
SERIAL NO:	10/685,308	**EXAMINER:**	J. Mitchell
FILED:	October 14, 2003		
FOR:	AN ELECTRONIC COMPONENT WITH A LEADFRAME		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

REPLY BRIEF

This document is in response to the new arguments presented in the Examiner's Answer dated April 14, 2009.

IN THE CLAIMS:

Please amend claim 19 as follows pursuant to 37 C.F.R. §41.33(b)(2):

I hereby certify that this Amendment (along with any paper referred to as being attached or enclosed) is being filed electronically via EFS-web with the Commission for Patents on the date below.

Patrick O'Shea
Patrick J. O'Shea

6/15/2009
Date

1. (Previously Presented) An electronic component, comprising:

a leadframe;

a platform;

an electronic member located on the platform and connected to the leadframe by electrical conductors; and

a housing which encloses the electronic member and the platform, where first and second support regions each comprising a lobe are provided on the platform on corresponding peripheral portions to support the platform during fabrication of the housing, where the housing has upper and lower support indentations formed therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe whereby each lobe supported the platform during fabrication of the housing, and at least a portion of the first and second support regions project beyond the housing subsequent to the fabrication of the housing.

2-4. (Cancelled)

5.(Previously Presented) The electronic component of claim 1, further comprising a transition zone located between the lobe and a remaining portion of the platform, where at least one notch-shaped depression is provided within the transition zone.

6. (Cancelled)

7. (Previously Presented) The electronic component of claim 1, where the leadframe comprises at least one connecting piece that protrudes from the housing, where the at least one connecting piece is connected to the electronic member.

8. (Previously Presented) The electronic component of claim 1, where the leadframe comprises a plurality of connecting pieces that each protrude from the housing, where each connecting piece is connected to the electronic member.

9. (Previously Presented) The electronic component of claim 1, where the leadframe comprises a metal alloy.

10. (Previously Presented) The electronic component of claim 1, where a thin anticorrosive film extends along at least a section of the lobe element.

11. (Previously Presented) The electronic component of claim 1, where at least a section of a surface of the leadframe is coated with a metal alloy.

12. (Cancelled)

13. (Previously Presented) The electronic component of claim 1, where the electronic member comprises a Hall effect sensing device.

14-16. (Cancelled)

17. (Previously Presented) A Hall effect sensing device, comprising:

a leadframe;

a platform;

a magnetic sensing element located on the platform and connected to the leadframe by electrical conductors; and

a housing which encloses the magnetic sensing element and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform to support the platform during fabrication of the housing, where at least a portion of the first and second lobes project beyond the housing subsequent to fabrication of the housing, and a first notch-shaped depression is located between the first lobe and the platform to provide a first moisture barrier, and a second notch-shaped depression is located between the second lobe and the platform to provide a second moisture barrier, where the first and second moisture barriers are within the housing.

18. (Cancelled)

19. (Currently Amended) A Hall effect sensing device, comprising:

a leadframe;

a platform;

a magnetic sensing element located on the platform and connected to the leadframe by electrical conductors; and

a housing which encloses the magnetic sensing element and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform to support the platform during fabrication of the housing, where at least a portion of the first and second lobes project beyond the housing subsequent to fabrication of the housing, and a first notch-shaped depression is located between the first lobe and the platform to provide a first moisture barrier, and a second notch-shaped depression is located between the second lobe and the platform to provide a second moisture barrier, where the first and second moisture barriers are within the housing~~The Hall effect sensing device of claim 18~~, and where a thin anticorrosive film extends along at least a section of the first lobe and along a section of the second lobe.

20. (Previously Presented) The Hall effect sensing device of claim 17, where the first and second lobes extend along the same axis.

21. (Previously Presented) A magnetic sensing device, comprising:

a leadframe;

a platform;

a semiconductor die comprising a magnetic sensing element located on the platform and connected to the leadframe by electrical conductors; and

a package that encloses the semiconductor die and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform to support the platform during fabrication of the package, where the package has upper and lower support indentations formed therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe to thereby allow each lobe to support the platform during fabrication of the package, where at least a portion of the first and second lobes project beyond the package subsequent to fabrication of the housing.

22. (Previously Presented) The magnetic sensing device of claim 21, comprising a first notch-shaped depression located between the first lobe and the platform to provide a first moisture barrier, and a second notch-shaped depression located between the second lobe and the platform to provide a second moisture barrier.

23. (Previously Presented) The sensing device of claim 22, where a thin anticorrosive film extends along at least a section of the first lobe and along a section of the second lobe.

24. (Previously Presented) The sensing device of claim 23, where the first and second lobes extend along the same axis.

25. (Previously Presented) The sensing device of claim 24, where the semiconductor die comprises a Hall effect sensing element.

26. (Previously Presented) A magnetic sensing device, comprising:

a leadframe;

a platform;

a semiconductor die comprising a magnetic sensing element located on the platform and connected to the leadframe by electrical conductors; and

means for packaging the semiconductor die and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform and extend along a common axis outside the means for packaging, where the means for packaging has upper and lower support indentations formed therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe to thereby allow each lobe to support the platform during fabrication of the means for packaging, and each lobe extends outside the means for packaging subsequent to fabrication of the means for packaging.

27. (Previously Presented) The magnetic sensing device of claim 26, comprising a first notch-shaped depression located between the first lobe and the platform to provide a first moisture barrier, and a second notch-shaped depression located between the second lobe and the platform to provide a second moisture barrier.

28. (Previously Presented) The magnetic sensing device of claim 27, comprising a thin anticorrosive film extends along at least a section of the first lobe and along a section of the second lobe, where the first and second lobes extend along the same axis, and the semiconductor die comprises a Hall effect sensing element.

I. APPLICANT'S RESPONSE TO THE EXAMINER'S ANSWER

STATUS OF CLAIMS

On July 10, 2006 an amendment was filed (i) amending claims 1, 7, 8, 11 and 13, (ii) cancelling claims 2 and 14-16, and (iii) adding claims 17-28. Claim 19 was dependent on claim 18, which was dependent on independent claim 17. Independent claim 17 recited a hall effect sensing device which included the feature of "*a housing which encloses the magnetic sensing element and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform to support the platform during fabrication of the housing, where at least a portion of the first and second lobes project beyond the housing, and a first notch-shaped depression is located between the first lobe and the platform to provide a first moisture barrier, and a second notch-shaped depression is located between the second lobe and the platform to provide a second moisture barrier.*" Similarly to claim 17, dependent claim 18 recited the feature of "*a first notch-shaped depression located between the first lobe and the platform to provide a first moisture barrier, and a second notch-shaped depression located between the second lobe and the platform to provide a second moisture barrier.*" Thus, claim 17 recited each features in claim 18 (i.e., the first and the second notch-shaped depressions). Therefore, claim 19 would have been properly dependent solely from independent claim 17. As such, claim 19 has been rewritten, as set forth herein, into independent form incorporating each feature of claim 17 pursuant to 37 C.F.R. §41.33(b)(2). As a result, applicants respectfully submit that claim 19 is still pending in this appeal.

CLAIM APPENDIX

As set forth above, applicants respectfully submit that claim 19 is still pending in this appeal since it has been rewritten into independent form pursuant to 37 C.F.R. §41.33(b)(2).

RESPONSE TO ARGUMENT SECTION

The Examiner's Answer asserts several new arguments. Entry of this Reply Brief is required to respond to these new arguments.

CLAIM 1

The Examiner Answer's contends that the claim language "*project*[ing] *beyond*" the housing as recited in claim 1 is broad and does not preclude the incorporation of a cap portion as taught in Totokawa. (Answer, pgs 18-20). Applicants respectfully disagree.

The present application ("application") recites the word "project", and variations thereof, in several passages. For example, the application states, in reference to FIG. 1, that "*[connecting] pieces 6" project into the housing 4 of the electronic component 1, without directly contacting the platform 5.*" (Application, pg 5, line 27 to pg 6, line 1). Thus, according to a fair and proper reading, the word "project" indicates in this instance that the connecting piece 6" physically extends into the housing 4. In another example, the application states, in reference to FIG. 2, that "*[the] effect of the supporting hole 11 is that a section of the bottom side of the lobe element 7 projects from the housing 4.*" (Application, pg 6, lines 19-20). Thus, according to a fair and proper reading, the word "projects" indicates in this instance that the bottom side of the lobe element 7 is exposed. Therefore, the word "project", and variations thereof, has slightly different meanings depending on the context in which the word is used.

Claim 1 recites an electronic component that includes the follow features:

> "*a housing which encloses the electronic member and the platform, where first and second support regions each comprising a lobe are provided on the platform on corresponding peripheral portions to support the platform during fabrication of the housing, where the housing has upper and lower support indentations formed therein that **expose an upper surface and a lower surface**, respectively, of an outer peripheral portion of each lobe whereby each lobe supported the platform during fabrication of the housing, and at least a portion of*

the first and second support regions ***project beyond the housing*** *subsequent to the fabrication of the housing*." (cl. 1, emphasis added).

Thus, significantly, claim 1 distinguishes exposing "*an upper surface and a lower surface... of an outer peripheral portion of each lobe*" from the first and the second support regions projecting "***beyond** the housing*...." (cl. 1, emphasis added). That is, the claim language "project beyond" must indicate more than the mere exposure of the support regions.

In contrast to claim 1, Totokawa teaches, as illustrated in FIGs. 7-9, that thin parts 2b of a support plate 2 is capped by a resin filled portion. (Totokawa, pg 5) (also see Answer, pg 19). According to a fair and proper reading of Totokawa, the top and the bottom of the thin parts 2b of the support plate 2 are flush to the resin cap. Thus, merely the top, via recesses 21, 22, and the bottom, via recesses 23, 24, of the thin parts 2b of the support plate 2 are exposed. (Totokawa, pg 5) (see also Answer, pg 19). Therefore, Totokawa fails to teach or suggest that the thin parts 2b of the support plate 2 projects **beyond** the molded resin body 20.

CLAIM 5

The Response contends that it would have been obvious to modify the thin parts 2b of the support plate 2 as taught in Totokawa such that dimples 30 as taught in Song extend along the same axis. (Answer, pg 10). Applicants respectfully disagree. Specifically, assuming for the moment, without admitting that Totokawa was modified to incorporate the dimples as taught in Song, the combination still would not teach the feature of a "*notch-shaped depression*". (cl. 5).

As known to one of ordinary skill in the art, a notch is a continuous slit that extends a certain length. In contrast to the claimed "*notch-shaped depression*", Song teaches using dimples 30 to enhance bonding strength. (Song, col. 3, lines 62-66). According to a fair and proper reading of Song, these dimples 30 are formed, as illustrated in FIG. 5, "*by impacting suitable particle media 250 from an injection means such as nozzle 200.*" (Song, col. 4, lines 28-

40). That is, each dimple 30 does not extend for a certain length, but rather is a pin-point depression. Therefore, the notch-shaped depression recited in claim 5 does not read on the dimples 30 as taught in Song since the dimples 30 do not extend for a certain length and a notch is not a dimple. In addition, Song teaches away from using "slots" for enhancing bonding strength. Specifically, Song teaches that "*when slots are formed, it is difficult to attach the semiconductor device onto the die pad while bypassing the slots, and complicated apparatus is required to attach the device.*" (Song, col. 1, line 66 to col. 2, line 2). As a result, even if Totokawa and Song were combined, the combination would still fail to teach or suggest the feature of a "*notch-shaped depression*" as recited in claim 5.

CLAIM 17

Claim 17 recites the features of "*where at least a portion of the first and second lobes* *project* ***beyond*** *the housing* *subsequent to fabrication of the housing*..." and "*a first notch-shaped depression... and a second notch-shaped depression* ...." (emphasis added). The claim language "project beyond" indicates more than the mere exposure of the lobes since the word "project" is modified by the word "beyond". Therefore, Totokawa fails to teach or suggest that the thin parts 2b of the support plate 2 projects **beyond** the molded resin body 20 since the top, via recesses 21, 22, and the bottom, via recesses 23, 24, of the thin parts 2b of the support plate 2 are merely exposed. (Totokawa, pg 5) (see also Answer, pg. 19). In addition, as set forth above, a notch is a continuous slit that extends a certain length. In contrast to the claimed notch-shaped depressions, Song teaches using dimples 30 (i.e., pin-point depressions) for enhancing bonding strength opposed to slots. (Song, col. 1, line 66 to col. 2, line 2). Therefore, assuming for the moment, without admitting, that Totokawa was modified to incorporate the dimples as taught in Song, the combination still would not teach the feature of a "*notch-shaped depression*". (emphasis added, cl. 17).

CLAIM 21

Claim 21 recites the feature of "*where at least a portion of the first and second lobes project **beyond** the package subsequent to fabrication of the housing.*" (emphasis added). The claim language "project beyond" indicates more than the mere exposure of the lobes since the word "project" is modified by the word "beyond". Therefore, Totokawa fails to teach or suggest that the thin parts 2b of the support plate 2 projects **beyond** the molded resin body 20 since the top, via recesses 21, 22, and the bottom, via recesses 23, 24, of the thin parts 2b of the support plate 2 are merely exposed. (Totokawa, pg 5) (see also Answer, pg 19).

CLAIM 22

Claim 22 recites the features of "*a first notch-shaped depression... and a second notch-shaped depression....*" As set forth above, a notch is a continuous slit that extends a certain length. In contrast to the claimed notch-shaped depressions, Song teaches using dimples 30 (i.e., pin-point depressions) for enhancing bonding strength opposed to slots. (Song, col. 1, line 66 to col. 2, line 2). Therefore, assuming for the moment, without admitting, that Totokawa was modified to incorporate the dimples as taught in Song, the combination still would not teach the feature of a "*notch-shaped depression*". (cl. 22).

CLAIM 26

The response contends that the feature of "*means for packaging the semiconductor die and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform and extend along a common axis outside the means for packaging, where the means for packaging has upper and lower support indentations formed* *therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe to thereby allow each lobe to support the platform during fabrication of the means for packaging, and each lobe extends outside the means for packaging subsequent to fabrication of the means for packaging*" recited in claim 26 does not invoke paragraph six of 35 U.S.C. §112. (Answer, pg 15). Specifically, the Response contends that the aforesaid feature does not meet the third prong of the test recited in MPEP §2181(I) – "*(C) the phrase 'means for' or 'step for' must not be modified by sufficient structure, material, or acts for achieving the specified function.*" (Answer, pg 15). Applicants respectfully disagree.

The aforesaid feature does not recite sufficient structure to achieve the specified function. – i.e., to package the semiconductor die and at least a central portion of the platform. For example, the feature states "*where the means for packaging has upper and lower support indentations formed therein that expose an upper surface and a lower surface....*" (cl. 26). According to a fair and proper reading, this feature merely describes how the means for packaging, the leadframe and platform interrelate. As a result, applicants respectfully submit that this feature invokes paragraph six of 35 U.S.C. §112.

II. CONCLUSION

For all the foregoing reasons and the reasons previously presented in the appeal brief submitted on November 26, 2008, applicants submit that the rejection of claims 1, 5, 7-11, 13, 17 and 19-28 is erroneous and reversal thereof is respectfully requested.

If there are any additional fees due in connection with the filing of this reply brief, please charge them to our Deposit Account 50-3381.

Respectfully submitted,

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